

What is claimed:

1. (canceled) Means for monolithically forming one-piece, low profile, reflective pavement marker comprising:

a substantially hollowed structural body with two parts, each of said parts having an arcuate top surface, one inclined planar face with multiple reflective cells, said reflective cells are formed in two rows, each of said cells is integrally includes an inside cell like area open within hollow cavity air gaps immediately beneath said reflective cells, each part further includes two arcuate sides with abrupt vertical ends, a backside with the open ends of one row of said hollow cavity air gaps, and a planar base surface that includes an extended portion beyond the front and side peripheries of said part, said base surface also includes the open ends of the second row of hollow cavity air gaps, said reflective cells can have either rectangular, hexagonal, or rhomboid shapes, said pavement marker can utilize high impact resistant polymeric material for said forming means, said marker forming means can be injection molded in one transparent color or in two stage color process;

element means for retro-reflection associated with marker forming means integrally protruding from said inside surfaces of said reflective cells within said hollow cavity air gaps, said element means provide a plurality of cube-corner reflective elements on said designated inside cell like areas, thereby facilitate retro-reflectivity of light from oncoming vehicles, said cube corner reflective elements can be selected from various micro cube size or the standard sizes commonly used, said two parts integrally connected with thin ties and having at least one beaded backside for sonic welding said two parts; interior wall means for structural support disposed rearward starting at the periphery of the designated reflective cell like areas and about .05 to .10 inch bellow the exterior of said inclined planar reflective face,

thereby defining said hollow cavity air gaps beneath said cube corner reflective elements, providing structural support for the low profile reflective marker and providing the ejection space needed during injection molding process used for said marker, said hollow cavity air gaps each having a centerline that forms an angle of about 50 to 90 degrees with respect to the corresponding planar base surface of said part, said hollow cavity air gaps separated from each other by said wall means, said wall means having outwardly tapered surfaces; and means for abrasion resistant coating the exterior surface of said reflective pavement marker utilizing chemical vapor deposition methods.

2. (canceled) The means for monolithically forming one-piece, low profile, reflective pavement marker as defined in claim 1, wherein the open ends of hollow cavity air gaps at the planar base surface can be capped and sealed with a corresponding size and shape polymeric thin plate, said plate having textured and grooved exterior surface and beaded or textured interior surface.

3. (canceled)

4. (canceled) [Means for monolithically forming one-piece reflective pavement marker comprising: a substantially hollowed structural body, said marker body having a spherical top surface with multiple, parallel, raised ridges, two recessed sides with near vertical grip areas, a planar base surface with textured discontinuous grooves, said spherical top surface includes multiple reflective cells, said reflective cells integrally having planar inclined outside surfaces, said reflective cells having planar inside surfaces open within hollow cavity air gaps immediately beneath said reflective cells, said reflective cells can have either rectangular, hexagonal, or rhomboid shapes, said spherical top surface includes multiple raised ridges, said marker can be fabricated from high impact resistant polymeric material, said marker forming means can be injection molded in one transparent color or in two stage multi-color process;

means associated with marker forming means for integrally forming, multiple cube-corner reflective elements within the inside surfaces of said designated cell like areas of said spherical top surface, said cube corner reflective elements protruding freely within said hollow cavity air gaps, thereby providing the means to facilitate retro reflectivity of light from oncoming vehicles, said cube corner reflective elements can be of the micro cube sizes or the standard sizes;

interior wall means for structural support disposed rearward starting at the periphery of said designated reflective cell like areas and about .05 to .15 inch bellow the exterior, spherical top surface, thereby defining said hollow cavity air gaps beneath said cube corner reflective elements, and providing the ejection space needed during injection molding process used for said marker, said hollow cavity air gaps each having a centerline that forms an angle of about]

[50 to 90 degrees with respect to the corresponding planar base surface of said structural body, said hollow cavity air gaps having open ends at the planar base surface, said hollow cavity air gaps separated from each other by said wall means, said wall means having outwardly tapered surfaces, said wall means either having walls with textured interior surfaces, smooth surfaced walls, walls with arcuate surfaces, or walls with small spherical dots.]

5. (canceled)

6. (canceled)

7. (canceled) [A method of forming a reflective pavement marker monolithically including multiple of cube corner reflective elements comprising the steps of:]

a) [providing tooling means which allow an injection molding of said reflective pavement marker integrally including the cube corner reflective elements, said tooling means can mold said pavement marker in one stage or two stage color injection molding cycle;]

b) [providing the load carrying interior walls an angular means defining multiple hollow cavity air gaps which allow integrally forming the cube corner reflective elements within designated planar interior cells, said cube corner reflective elements protruding freely inside said hollow cavity air gaps within said pavement marker, said hollow cavity air gaps having centerlines inclined about 50 to 90 degrees with respect to the planar base surface of said pavement marker; and]

c) [provide means for applying an abrasion resistant hard coat to outside surfaces of said pavement marker utilizing various chemical film deposition methods, plasma enhanced chemical vapor deposition, ion beam sputtering or reactive sputtering methods to coat hard, abrasion resistance, said coating means can utilize any hybrid process in chemical vapor deposition chamber, such as, radio frequency plasma decomposition from a gas,]

[such as normal butane or other gases, said plasma can be excited using an electromagnetic alternating fields, said coating means can also utilize ion beam sputtering process which can provide one or two stage gradual coating, said coating can have an adhesive enhancing buffer coat on the pavement marker surface hard carbon coat thereafter.

whereby said reflective pavement marker will be monolithically formed including said cube corner reflective elements with abrasion resistant carbon coated exterior surface.]

8. (new) A method of monolithically forming one-piece, hollowed, low profiled reflective pavement marker integrally including multiple cube corner reflective elements, said pavement marker having two parts, each of said parts having a top surface, two arcuate sides with abrupt vertical ends, a vertical backside with open ends of one row of interior hollow cavities, a planar base surface with the open ends of the second row of interior hollow cavities and one inclined face with two rows of reflective cells, said reflective cells each having an open interior surface with protruding cube corner reflective elements, said method comprising the steps of:
- a) providing tooling means which allow injection molding of said reflective pavement marker integrally including an inclined face with two rows of reflective cells, each cell having planar interior surface with multiple cube corner reflective elements, said tooling means can mold said pavement marker in one or two stage injection molding cycle to facilitate a multi colored exterior surface for said one-piece reflective pavement marker;

- b) providing load carrying interior wall means, said wall means having inclined angular positions defining said multiple hollow cavities, said hollow cavities allow integrally forming the cube corner reflective elements within designated planar interior cells of said inclined face, said cube corner reflective elements protruding freely inside said hollow cavities within said pavement marker, said hollow cavities having centerlines inclined about 50 to 90 degrees with respect to the planar base surface of said pavement marker; and
- c) provide means for applying an abrasion resistant hard coat to the exterior surfaces of said two parts reflective pavement marker utilizing various available methods for applying hard, transparent and UV stabilized thin film.

Whereby said reflective pavement marker will be monolithically formed including said cube corner reflective elements with abrasion resistance coated exterior surface.